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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,294	09/16/2003	Tadashi Amada	02887.0249	4299
22852 7590 02/22/2008 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER LAO, LUN S	
			ART UNIT 2615	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/662,294	<b>Applicant(s)</b> AMADA ET AL.	
	<b>Examiner</b> Lun-See Lao	<b>Art Unit</b> 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948).                      | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### *Introduction*

1. This action is in response to the amendments filed on 11-30-2007. Claims 1 and 18-20 have been amended. Claims 1-20 are pending.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11-30-2007 has been entered.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-5 and 7-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Nogi Kazuyuki (JP 2001-296891)(hereafter as Nogi).

Regarding Claim 1, Nogi discloses a directional setting apparatus, comprising (see fig. 1):

a keyword determination unit (see fig.1 (5)) configured to determine whether a certain keyword is included in a sound signal outputted from a microphone array having a plurality of microphones (see fig. 1 (1)) and abstract);

a voice recognition unit (44)) which detects a certain voice included in the sound signal outputted from the microphone array and set a directional determination period indicating a detection period of said certain voice, if it is determined that the certain keyword is included (see fig. 3 and see detail description page 4 [0014]-page 6 [0020]);

a voice direction detector (3)which detects an occurrence direction of said certain voice included in the sound signals outputted from the plurality of microphones in said directional determination period; and

a directional controller (41) which controls directivity of a prescribed apparatus based on the occurrence direction detected by the voice detection detector (see detail description page 4 [0012]- [0014]).

Regarding Claim 2, Nogi discloses said directional controller controls (see fig. 1(41)) the directivity of said prescribed apparatus, based on the sound signal which is generated by delaying the sound signals outputted (reads on sound buffer) from said plurality of microphones (1) in said directional determination period with locations of said microphones and the amount of delay based on the direction of arrival of the sound

signals and adding (3) the sound signals to each other (see detail description page 4 [0012]- [0014]).

Regarding Claim 3, Nogi discloses a detection result storage which stores directional data indicating occurrence direction of said certain voice detected by said voice direction detector, wherein said directional controller controls directivity of said certain apparatus based on the directional data of said certain voice in said directional determination period, among the directional data stored in said detection result storage (see fig.1 and detail description page 4 [0012]- [0014]).

Regarding Claim 4, Nogi discloses a sound storage which stores said sound signal, wherein said directional controller controls directivity of said prescribed apparatus based on said sound signals in said directional determination period, among the sound signal stored in said detection result storage (see fig.1 and detail description page 4 [0012]- [0014]).

Regarding Claim 5, Nogi discloses said prescribed apparatus is said microphone array (see fig.1 (1)); and said directional controller controls the directivity of said microphone array based on the detection result of said voice direction detector (see fig.1 and detail description page 4 [0012]- [0014]).

Regarding Claim 7, Nogi discloses said voice recognition unit detects said certain voice included in the sound signal outputted from a prescribed microphone among said plurality of microphones (see fig.1 (1) and detail description page 4 [0012]- [0014]).

Regarding Claim 8, Nagai discloses wherein said voice recognition unit detects said certain voice included in the output of said directional controller (see fig.1 (41)) and detail description page 4 [0012]- [0014]).

Regarding Claim 9, Nogi discloses said voice direction detector detects occurrence direction of said certain direction based on a result of repeating the detection of occurrence direction of said certain voice by a plurality of times (see figs. 1-3 and see detail description page 4 [0014]-page 6 [0020]).

Regarding Claim 10, Nogi discloses said directional determination period is a partial period in detection period of said certain voice (see figs. 1-3 and see detail description page 4 [0014]-page 6 [0020]).

Regarding Claim 11, Nogi discloses said directional determination period is a period within a detection period of said certain voice and in which voice level of said certain voice is not less than a prescribed level (see figs. 1-3 and see detail description page 2 [0007]-page 3 [0008]).

Regarding Claim 12, Nogi discloses said directional controller can individually control the directivities of said plurality of microphone, respectively (see figs. 1-3 and see detail description page 4 [0014]-page 6 [0020]).

Regarding Claim 13, Nogi discloses said directional controller supplies a sound signal obtained by combining the sound signals outputted from said plurality of microphones (see fig.1 (1)) to said voice recognition unit without control of the directivity, when said voice recognition unit detects said certain voice at first time, and controls the directivity of the sound signals outputted from said plurality of microphones based on the prior

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detection result by said voice recognition unit (5 in fig.1) to supply the sound signal to said voice recognition unit (5), when said voice recognition unit detects said certain voice at second or more times (see figs. 1-3 and see detail description page 4 [0014]-page 6 [0020]).

Regarding Claim 14, Nogi discloses said voice recognition unit (5 in fig.1) detects multiple types of said certain voices and a plurality of said directional determination periods corresponding to these certain voices; and said directional controller (41) independently controls the directivity of said prescribed apparatus based on the sound signal outputted from said plurality of microphones (1 in fig.1) in said plurality of directional determination period (see figs. 1-3 and see detail description page 4 [0014]-page 6 [0020]).

Regarding Claim 15, Nogi discloses said voice recognition unit detects a voice indicating a setting of a certain directivity and a voice indicating a setting release of said certain directivity; and said directivity controller suspends the directional control of said prescribed apparatus when said voice recognition unit detects the voice which indicates setting release of said certain directivity (see figs. 1-3 and see detail description page 4 [0014]-page 6 [0020]).

Regarding Claim 16, Nogi discloses said directional controller (see fig.1 (41)) releases setting of said certain directivity, and controls directivity of said prescribed apparatus based on the detection result of a new certain voice when said voice direction detector (3) detects occurrence direction of the new certain voice, before said voice

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direction detector (3) detects the voice indicating the setting release of said certain directivity (see figs. 1-3 and see detail description page 4 [0014]-page 6 [0020]).

Regarding Claim 17, Nogi discloses said certain voice is a voice including a meaningful certain keyword (see figs. 1-3 and see abstract and detail description page 4 [0014]-page 6 [0020]).

Regarding Claim 18, Nogi discloses a directional setting system, comprising(see fig.1):

- a microphone array having a plurality of microphones (Fig. 1 (1));

- a keyword determination unit (5) configured to determine whether a certain keyword is included in a sound signal outputted from the microphone array (see abstract);

- a voice recognition unit (44) which detects a certain voice included in the sound signal outputted from said microphone array and sets a directional determination period indicating a detection period of said certain voice, if it is determined that the certain keyword is included (see fig. 3 and see detail description page 4 [0014]-page 6 [0020]);

- a voice direction detector (3) which detects an occurrence direction of said certain voice included in the sound signals outputted from the plurality of microphones in said directional determination period; and

- a directivity controller (41) which controls directivity of a prescribed apparatus based on the occurrence direction detected by the voice direction detector((3) in fig. 1 and see detail description page 4 [0012]- [0014]).

Claim 19 is essentially similar to Claim 18 and is rejected for the reasons stated above apropos to Claim 18.



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Claim 20 is essentially similar to Claim 19 and is rejected for the reasons stated above apropos to Claim 19.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nogi (JP 2001-296891) in view of USPAT 6,469,732 to Chang et al. (hereafter Change).

Regarding Claim 6, Nogi does not expressly disclose said prescribed apparatus is a image pick-up device; and said directional controller controls image pick-up direction of said image pick-up device based on the detection result of said voice direction detector.

However, Change discloses said prescribed apparatus is a image pick-up device; and said directional controller controls image pick-up direction of said image pick-up device based on the detection result of said voice direction detector(Figs. 1-3 and col.3 line 37-col. 4 line 68).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nogi with the teaching of Change to provide accurate location of a video conference using as few as microphones in a 3-dimensional configuration.

***Response to Arguments***

7. Applicant's arguments with respect to claim 1-20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brandstein (US PAT. 5,737,431) is recited to show how other related directional setting apparatus, directional setting system, directional setting method and directional setting program.

9. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

**(571) 273-8300**

Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (571) 272-7848.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See *L.S.*  
Patent Examiner  
US Patent and Trademark Office  
Knox  
571-272-7501  
Date 02-11-2008



VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER